Committee on Resources

Subcommittee on Fisheries Conservation, Wildlife and Oceans

Statement

Testimony of

Dr. E. William Colglazier

Executive Officer of the National Research Council

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Subcommittee on Fisheries Conservation, Wildlife and Oceans

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Good morning Chairman Saxton and Members of the Subcommittee: my name is William Colglazier and I am the Executive Officer of the National Research Council (NRC), which is the operating arm of the National Academies of Sciences and Engineering and the Institute of Medicine. I am pleased to testify before you today on the topic of international cooperation in ocean sciences.

The National Academy of Sciences was created by Congress in 1863 with the mission to "whenever called upon by any department of Government, investigate, examine, experiment, and report upon any subject of science or art…" Since that time, we have frequently been called upon by both the legislative and executive branches of government to provide scientific, engineering, and policy advice on subjects ranging from space shuttle design to childhood health. In my testimony today concerning H.R. 2090, the Exploration of the Seas Act, I will highlight relevant past and ongoing work of the National Academies in the area of ocean sciences. My remarks are drawn largely from the work of the Ocean Studies Board (OSB), the unit within the Research Council responsible for providing guidance on ocean research and technology, marine resources, and marine policy. Copies of all the reports I will mention are available for use by you and your staff.

Thanks to the extraordinary efforts of explorers and scientists over the past two decades, we have all come to recognize the ocean's profound influence on human life. The ocean is an important source of food and a means of commerce, but it can also endanger human life through natural disasters, harmful algal blooms and other water-borne health threats. The world's navies have always recognized the ocean's central role in national security. As worldwide population continues to increase, and more and more people move toward the coasts, pressures on ocean environments and resources are mounting.

The field of oceanography has an important role to play in maximizing the benefits from the ocean while minimizing its potential negative impacts. The study of ocean science also provides the excitement and intellectual stimulation of new knowledge, such as the stunning discovery of novel life-forms on the seafloor near deep-sea hot vents and cold seeps. Since the 1950s, the United States has been the world leader in ocean studies, both in basic science and in understanding the ocean's relation to human activities.

Over the past several years, the National Research Council has conducted dozens of studies in the areas of ocean science, management, and policy. These studies have ranged from the identification of critical research priorities, to very practical examinations into the availability of ocean resources, and analyses of marine environmental problems and their solution. For example, just in the past year, in the area of marine fisheries, the NRC has issued reports on methods for sustaining marine fisheries and their habitats, evaluations of new economic policies for allocating marine fish resources, and better mathematical methods for estimating specific fish populations. Ongoing studies are examining fisheries data collection methods, the desirability of establishing marine reserves and protected areas, and the effects of sound on marine mammals.

Outside the area of fisheries, the Ocean Studies Board has studies underway to examine the problem of nutrient overenrichment, or eutrophication, in coastal waters; to document the many natural and man-made sources of oil in the sea and describe their effects on marine ecosystems; to explore the possibility of establishing permanent research platforms on the seafloor to gain more information more efficiently than ever before; and much more. Last year, the NRC hosted a workshop to explore the effects of the ocean on human health, both positive and negative. The report of that workshop, *From Monsoons to Microbes: Understanding the Ocean's Role in Human Health*, discusses topics ranging from the human toll caused by coastal storms to the potential for using marine organisms to make new medicines.

One theme that recurs in many of these studies is the need for effective partnerships among government, academia, and the private sector. A seminal report from the Ocean Studies Board, *Oceanography in the Next Decade: Building New Partnerships,* formed the basis for the National Oceanographic Partnership Program--a program that has proven to be a highly successful means of building partnerships among the numerous U.S. agencies with ocean-related missions.

For each of its studies, the Research Council goes to great lengths to assemble the right mix of natural scientists, social scientists, engineers, businessmen, and policymakers to examine each problem. Each committee must then follow our time-honored process for reaching consensus, based on gathering the relevant background materials, seeking broad input from all interested parties, and then applying a thorough, objective analysis to the issues presented. Finally, every NRC report undergoes a rigorous review process before it can be released.

The National Academy of Sciences also has a long history in the international arena. The Academies represent the United States in the International Council for Science (ICSU) and serve as the administrative home of numerous ICSU national committees in various fields of science, including the Scientific Committee on Oceanic Research. In addition to this ongoing international cooperative mechanism, the NRC regularly undertakes cooperative studies with other nations. Recently, the Research Council completed a cooperative study with Mexico on binational ocean research. This joint effort of the U.S. and Mexican Academies of Science identified a wealth of shared environmental problems and research efforts that could be best approached through binational efforts between the United States and Mexico.

The Research Council recognized early on that gaining a complete understanding of the ocean and its role in

global processes would require global cooperation and sharing of resources. The Council has played a major role for the past half century in helping to plan, launch, and manage major international ocean research programs. Examples include the International Geophysical Year, the International Decade of Ocean Exploration, the Tropical Ocean-Global Atmosphere program, the World Ocean Circulation Experiment, the Joint Global Ocean Flux Study, and the Ridge Inter-Disciplinary Global Experiment. Because of the scale of the environmental problems that face us, and the significant resources needed to explore, understand, and protect the vast oceans, international cooperation in ocean science is vital. Although the United States possesses significant human, physical, and fiscal resources, the logical next step for maximizing new knowledge about the ocean is to expand and solidify our international cooperation with nations that complement our own resources and capabilities.

In conclusion, I believe there is a great need for enhanced exploration of the ocean so that we can be better stewards of its resources and understand more clearly how the health of the oceans affects the habitability of the planet for humans and all other life. Despite the preeminence of the United States in ocean sciences, progress in protecting and understanding the ocean can be achieved more quickly and effectively through cooperative international efforts. We at the National Academies stand ready to help in any way that is appropriate and useful.

Thank you, Chairman Saxton and Members of the Subcommittee, for your interest in the NRC's views regarding the future of international cooperation in ocean sciences.

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